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St. Bartholomew's Hospital Journal,

FEBRUARY 14th, 1899.

"Æquam memento rebus in arduis
Servare mentem."—*Horace,* Book ii, Ode iii.

WHAT is the most satisfactory method of catering for the educational needs of post-graduates? The question is one of great importance, and is just now very much under discussion. Probably owing to the greater thoroughness of the medical student's curriculum on this side of the Atlantic, post-graduates in search of clinical instruction are not so numerous in England as in America, but there is a growing tendency amongst the younger generation of practitioners to spare some weeks out of their busy year in seeking to add to their professional knowledge by revisiting the metropolis.

Speaking broadly, the solution of the difficulty—for the problem is not a simple one—has been attempted in five ways, with varying success. Firstly, post-graduate vacation classes have been held at the large general hospitals; secondly, provision has been made for post-graduates by enabling them to enter to the teaching and practice of either of these hospitals on payment of a composition fee; thirdly, a number of these same hospitals have united, and tickets have been issued by means of which post-graduates may attend at all the hospitals so joining; fourthly, we have seen one of the smaller general hospitals, to which no medical school is attached, throwing open its wards and out-patient departments to post-graduates especially; and lastly, we have recently witnessed the formation of a "Policlinic," at which post-graduates are promised facilities for refreshing the blurred images of their student days, or for receiving new instruction upon any advances made in the science and art of their profession. Each of these schemes has its advantages, each its drawbacks; to judge these wisely, and decide which method is fittest, requires experience and consideration. We are encouraged to venture upon a few critical remarks by the great interest the matter has for many of the readers of the JOURNAL.

Let it be understood that it is the post-graduate who is already, or whose ultimate object is to become, a general practitioner that we are considering. The man who aims at special branches of medicine has his way clearly marked out; he takes a course at one or more of the special hospitals, or attends the *clinique* in that subject at well-known Continental centres. For the general practitioner, however, the case is very different; for him the work of a general hospital is not only necessary, it is eminently fitted to his needs; so much it seems necessary to grant at the outset. And this being so, though it is premature to judge of so young an effort, we cannot think the advantages offered by a policlinic—where there are no patients acutely ill, or being nursed, or being treated either medically or surgically for their diseases—will prove of much help in the matter.

Against the vacation classes at the general hospitals having attached medical schools has to be placed the great objection that they can never be adequate without throwing the routine medical students' curriculum out of gear,—a cala-

mity the authorities rightly view with much concern; and if the classes be not adequate they are a failure. Moreover the average English hospital patient has a more limited tolerance of examination than is the case on the Continent. But the former of these two objections is the weightier one, and is quite enough to prevent the system receiving more than scant encouragement from headquarters.

There is much to be said for the scheme whereby the post-graduate returns to the ordinary work of a general hospital, whether to one or several. Incidentally, however, we may remark that there seems nothing gained, but rather something lost, by attending more than one, provided that be large; we have often heard men express this opinion as the result of the "combined ticket" system. We regard this as the post-graduate's best means of using his time; medical, surgical, and gynæcological wards, operations, special departments, out-patient rooms,—here is all he requires. Here, too, he meets with tutors who know best how to utilise their material from long years of experience. We are fully aware of the objection,—it is, we believe, the only one,—some men make against this method; the disinclination to rub shoulders with the junior unqualified student. It cannot be justly urged that this prejudice is trivial, or that holding it condemns a man to being charged with considering himself no longer a student. The exigencies of general practice are far too great to let this very reasonable objection on the part of the post-graduate prevent us thinking highly of the spirit which induces him to return to hospital for the sake of his patients. Still, we cannot but hope that custom may so stale this system of post-graduate education that the above-named prejudice will die a natural death.

For such men as find this objection an insuperable one there remains the provision for post-graduates made at one or other of the general hospitals not possessing a medical school. Here our *sine quâ non* is secured,—a general hospital. Crowding out the ordinary medical student on the one hand, and mixing seniors and juniors on the other, are done away with. But, as against these advantages, we have the drawbacks that the *clinique* is of necessity limited, and the teachers men of less tutorial experience than might be met with nearer home.

In conclusion, then, we consider the return of the post-graduate to his *alma mater* is his best course; and for those who have been trained at smaller centres than the large metropolitan hospitals, special provision is made by the authorities of such schools. Short of actual classes which disturb the routine work, this provision is all that can be desired. As we began by saying, "there's aye a something;" but we do not think the "something" in this case so great a matter as it is in the others. It is but a prejudice, which we all of us should not only deplore, but do our best to uproot by honouring the qualified man who comes into our midst, and treating him as a colleague.

A Case of Spondylitis due to Osteo-arthritis.

A Clinical Lecture delivered on January 27th, 1899.

By Sir DYCE DUCKWORTH, M.D., LL.D.

I BRING before you to-day the case of a young man suffering from a severe form of rheumatoid or osteo-arthritis. You do not see many cases of this disease in our wards, because they are mostly of a chronic character, and their progress under treatment is always slow, sometimes hardly perceptible, so that we can seldom keep such patients here long enough for you to witness the improvement that is possible for many of them to secure. When you enter into practice, however, you will certainly have to recognise and treat this ailment, for it is common enough in all parts of the British Isles. You perhaps know that this disease is often called rheumatic gout. I mention this at once in order to warn you never to employ the term. The public use this designation, but if any of you should do so, I should believe that you had taken insufficient pains to make a diagnosis of the disease, or that you were ignorant of clinical medicine. Although the pathogeny of this disorder is not even now satisfactorily established, we know that it is not a result of the infecting material which causes true rheumatism, and we also know that it is not due to the conditions which set up true gout. It is, moreover, not a blend or hybrid of these two disorders. It is true that some forms of gout may induce deformities in joints closely resembling in many aspects those resulting from osteo-arthritis, and that thus you may sometimes find it difficult to be certain with which you have to do; but by a study of the whole patient, of his physical condition, history, and environment, you ought to arrive in most cases at a correct diagnosis of the case before you. It would be impossible for me here and now to enter into this large question, which, however, I treat at length in my systematic lectures. I am only concerned to-day to illustrate some of the main features of osteo-arthritis, and to direct your attention to the peculiarities which the patient I shall bring before you exhibits. I will, therefore, only lay down the chief points which enable us to differentiate this disease from rheumatism and gout. In the first place, heredity plays but a small part here. This is well marked in gout, and less observed in rheumatism. Osteo-arthritis is common in females, and so is rheumatism, while the reverse holds for gout. Poor living and depressing conditions, overwork and exposure count for much in osteo-arthritis, while high living and indulgence in strong drinks dispose to gout.

Rheumatism is not a disorder induced by any form of diet. Gout, you know, often begins in the feet and small joints, does not affect the heart, and is attended by moderate fever. Rheumatism attacks large and small joints, is very apt to involve the heart, and may be attended with

high fever. In osteo-arthritis large and small joints may suffer, the pain is less severe, the heart is not affected, and there is generally only fever in acute accessions of the disease. Again, gout is a periodic disorder, but neither rheumatism nor osteo-arthritis have this quality. The latter is apt to be progressive, and to involve various joints slowly in succession. Lastly, while in gout we always meet with urichæmia, and sometimes with uratic deposits and progressive renal inadequacy, we find none of these peculiarities in rheumatism or osteo-arthritis. This latter term, by the way, is one of eleven which have been applied to the disorder we are considering to-day, and it has the merit of clearing the mind from any ideas of rheumatism or gout. Occasionally we meet with puzzling cases of this disease in which, owing to an acute onset, many joints are involved at the same time, with more fever than is commonly witnessed. The heart, however, remains unaffected, and sweating is little marked. We may for some time suspect that we have to deal with rheumatic fever. Such cases, however, do not yield to ordinary antirheumatic treatment, and their progress declares before long the true nature of the ailment. Moreover we find examples of this chiefly in young adults in whom true rheumatism is more likely to be met with. The history and condition of the patient I now bring before you is as follows:—

J. T—, æt. 27, admitted to Matthew Ward, January 19th, 1899. Invalided from the City Police Force in February, 1896. Always robust and healthy till four and a half years ago, when he suffered from shooting pain in the left hip and thigh. Four months later similar pains came in the right hip and thigh. (The first year of his service consisted of night duty.) An attack of bronchitis next occurred, and after this illness he observed that his chest "fell in," and any exertion with his arms caused pain between the shoulders. His shoulders came forward, and his back gradually became arched. His head and neck grew stiff. The pains were not worse at night. There have been aching and shooting pains in the spine, and creaking in the neck. This was his condition in February, 1896, when he was discharged from the police force. Since then the left knee and the right shoulder joints have become involved, and the spine has grown more immoveable.

He has been in St. George's Hospital, has undergone treatment at Bath, and had thirty-five Tallerman baths without any marked improvement.

The patient now stripped is manifestly, as you see, much crippled and deprived of spinal motility. He can rise up and walk stiffly, but cannot bend his spine so as to pick up anything off the ground. The head is thrown forward. He stands in the attitude of a gorilla, with his arms hanging forward, his shoulders bent, the spine flexed on the pelvis, and the legs apart. His progression is waddling. The thorax is flattened under the clavicles. The trunk moves as one piece. The various organs in the chest and abdomen are natural. The arteries at the wrist and temples are tortuous and thickened. The heart sounds are natural. The urine is also natural. He is over six feet in height, and we may be sure that his general physical state some years ago was satisfactory, or he could not have been accepted for the police service. His tongue is flabby, the appetite good, and the bowels act regularly.

On examining his head carefully we find slight movement of the atlo-occipital joint, but none in the atlo-axial. His palate is narrow and highly arched. The temporo-maxillary joints are free. The right shoulder-joint grates on movement, and rotation of the humerus is limited. The left one is affected in a less degree. The left femur cannot be perfectly rotated, and the right is also involved at the acetabulum. The left knee is puffy, the patella creaks on movement, and is enlarged and "lipped." Movement of it is painful. The right knee-joint is free. The right ankle is puffy, and is limited in its movements.

The spine is stiffened throughout, and rotation is impossible in its course.

His past history is void of interest. He was brought up in the country till the age of twenty, and never had any illnesses. There is no history of gonorrhœa or lues. His family history is excellent, and his parents lived to advanced age. No history of rheumatism or gout can be obtained.

I think we must take note of the fact that this man was kept for a year on night duty. This is always trying, and especially to young people. Older persons can better bear this perversion of physiological rhythm. Those who turn night into day are generally underslept. They are apt to become anæmic and to lose tone. You know that we never keep our night nurses on duty for more than three months at a time, and that is long enough. It is conceivable that we have in this man's history a cause of vital and nervous depression which may fairly explain the incidence of osteo-arthritis. Failing this, we are left in doubt as to the *vera causa*. I need add nothing to impress upon you the gravity of the condition into which this vigorous young fellow has fallen, crippled and helpless, deprived of almost all means of gaining his livelihood, and through no fault on his part.

It is disappointing to learn that, so far, no treatment has been of any avail for him. Nothing but a union infirmary or a hospital for incurables appears to lie before him. We must not, however, despair of affording some relief in this case, and I shall presently tell you what we propose to do for him.

Let me next say something respecting the nature and pathology of osteo-arthritis.

In its acute and polyarticular form osteo-arthritis is particularly apt to attack young adults, and such cases, as a rule, afford cause for more anxiety, and necessitate a graver prognosis than that form which is of slower onset, even if symmetrical as respects the joints, and which we see more

frequently after middle life. Such cases demand prompt and persistent treatment with all the best resources we can command, and the sooner the disorder is dealt with the better the outlook. The disease may make rapid progress, and spoil the career of young adults who may have the best prospects before them. The same may be said of gonorrhœal arthritis, which not seldom assumes a virulent form, and may lead to permanent crippling and incapacity for active pursuits in life.

The patient you have seen to-day illustrates, as I have said, one of the rarer conditions met with, viz. spondylitis. It is fortunate that this variety is rare, for it is one of the most grievous complications. The cervical and lumbar vertebræ are the parts of the spinal column most commonly involved, and the atlo-axial joint in particular. I show you here a preparation from the museum illustrating spondylitis affecting the lumbar vertebræ. This condition may induce severe radiating pain from compression of the spinal nerve-roots, cramps in the limbs, and even motor and sensory nerve changes. Grating in the neck may be an early indication of the onset of spondylitis. The spine and the jaw are usually affected late in the course of the disease. Atrophy of adjacent muscles, spasm, and great myotatic irritability may supervene in this disease. These changes are almost certainly due to reflex nervous influences, originating in severe peripheral irritation. There may possibly be neuritis, set up by direct implication of the nerves supplying neighbouring muscles, and so wasting of these may be sometimes thus explained.

The morbid anatomy of osteo-arthritis involves all the tissues composing the joint. The appearances vary according to the acuteness of the disease, the stage of it which we witness or finally discover at the necropsy. There may be early in the case hydrarthrosis. The synovial membrane is primarily involved, being red and thickened with hypertrophied vascular tufts. Later, the synovial fluid is absorbed, leaving this membrane thickened. Next, the articular cartilages soften and waste, becoming villous or fibroid. Then they are absorbed, so that the bone is laid bare. The semilunar cartilages may disappear from the knee, or may be transformed into bone. The carti lages may, by irregular hypertrophy, discharge their free cells into the cavities of the joints, or form club-shaped villi. Owing to friction these villi disappear, and the subjacent bone undergoes changes. The synovial fringes may form dendritic growths which may become cartilaginous, of which I show you here several specimens, and some of these may become detached as loose bodies in the joints. The proliferating cartilaginous elements tend to accumulate at the edge of the joint, causing what is termed "lipping." In this disease the outgrowth is an ecchondrosis. In gout a similar condition of "lipping" occurs at the edges of the bones, but this is due to exostosis. This fact was first proved by a former house physician of mine, Dr. Wynne. The bony changes are in part hypertrophic and in part atrophic. The ecchondrosis may ossify and form spicules which tend to lock the joint by false ankylosis. These are well seen in the hip and knee joints. They often become eburnated and polished by friction at points of contact. Layers of dense bone are formed which protect the delicate cancellous structure beneath. We do not meet with true ankylosis in rheumatoid arthritis. This is a peculiarity of gouty arthritis, and in this disease we sometimes meet with a true fusion of the bones, or synostosis. The ligaments are no less involved. Thus, the crucial ligaments may be absorbed, the ligamentum teres also, and sometimes the long head of the biceps disappears. The capsular ligaments and tendons of muscles are apt to be caught up in some of the adjacent tissue proliferations.

Although there is no true ankylosis, there may be great immobility of the affected parts as the final outcome. This is the case in the cervical spine of this man. The pain is often severe, accompanied with startings in the limbs, aggravated by the warmth of the bed, and by exposure to cold and damp. Suppuration never occurs at any stage of the disease.

Of the morbid process originating this malady we are as yet ignorant. We know that it may occur in joints which have previously been the seat of acute rheumatism, although we know that this disorder leaves behind it no recognisable changes in the joints. In the ancestry we often find a history of gout, though rarely a personal history of this disease. The female members of gouty families are apt to suffer from osteo-arthritis. But no such history comes in to explain the great frequency of the disorder in poor Irish and Scottish patients who live in the perpetual damp environment of the western coasts of these islands. Unwholesome dwellings, poor living, moist climate, overwork, prolific child-bearing and prolonged lactation, uterine disorders, menorrhagia, and the influence of the menopause have clearly much to do with the production of the disease in women, who present by far the majority of cases. But you may meet with examples in young children.

The theory which has commanded the widest acceptance as the cause of this disorder is that which ascribes it to the action of various depressing agencies upon the central nervous system, which lead to the disorganisation and faulty nutrition of the joints. Many facts point very plainly in this direction, especially those which indicate that there is a centre, possibly in the medulla oblongata, presiding over the nutrition of the joints. Whether the malady starts primarily from a fault in this centre, or whether it is itself acted upon by peripheral irritations from a distance in a reflex manner, is not yet determined. There are probably several varieties of disease included at present under the term osteo-arthritis.

I need hardly say that there are now claimants in the field for a microbic origin of this disease. They doubtless base their case on the analogies of gonorrhœal or pyæmic

varieties of arthritis. I have little doubt that some varieties of arthritis exist which own a septic origin, but I should hesitate to say that they were of the same nature as the disease we are concerned with to-day. In respect of arthritis as a generic term, we must recognise clinically many species of it. The ultimate outcome as presented in the *post-mortem* theatre may very inadequately tell us what precise process led up to it during life. That part of the work is to be done at the bedside, and our business, let us not forget it, is to check there, if we can, the flow of morbid material into the hands of the pathologist. This leads me now to speak of the treatment of osteo-arthritis.

Recognising it essentially as a disease of debility, we employ tonic and nutrient remedies. We seek to put the patient into a healthy environment as regards his dwelling and general hygiene. A dry house, on a dry soil, in a sunny position, is essential. The patient should be free from worry, care, and want. Good food of all kinds, not omitting meat, fats, and fresh vegetables, and some form of alcoholic drink, of which porter is probably the best, warm clothing, warm but airy rooms, and such outdoor exercise as can be taken daily, are advisable. Preparations of iron, iodine, and arsenic are of the highest value, together with cod-liver oil; and nux vomica may often be combined with these. Tincture of iodine has been given with benefit in cases of spondylitis. I shall employ it for this patient in ℿx doses. Quinine and potassium iodide are of much use. Locally, we may employ warm saline baths, anodyne liniments, iodine ointment, or Scott's dressing. Decolourised iodine solution is often useful for the finger-joints and wrists. Courses of baths at various spas are of unquestionable benefit, sulphurous and saline waters proving of especial efficacy. Profound joint changes demand more severe treatment by actual cautery, Pacquelin's cautery, or the thermic hammer. The hot air treatment is sometimes of great benefit. Hot sand in bags may be applied to the larger joints. The linimentum sinapis and the oleate of mercury may be of use in tedious cases. In this malady, above all, you have to remember Trousseau's famous *dictum*, and it was this:—"Chronic diseases require chronic therapeutics." Your treatment to do good must be carried on for months and years, and if it be, you will often succeed in greatly benefiting your patient; not otherwise.

For this man I shall order the syrup of iodide of iron in drachm doses, with ten minims of the tincture of iodine in pimento water thrice daily, also cod-liver oil in half-ounce doses twice daily. The actual cautery is to be applied on each side of the cervical spines. The affected joints are to be treated with iodine ointment. Movements of the head, neck, and back must be carried out daily. He will have the full diet of the hospital and a pint of porter daily. We shall hope for improvement, and I trust I may again bring him before you in a better condition than that in which you have seen him to-day.

Let me add that when he is anæsthetised by nitrous oxide gas for the purpose of applying the actual cautery we shall have the left knee forcibly moved, so as to break up adhesions and restore more free motility to it.

Some Complications following Abdominal Operations.

A Paper read before the Abernethian Society, January 19th, 1899,

By H. WILLIAMSON, M.A., M.B., B.C.Cantab.

WHEN asked by your secretaries to read a paper before this Society, I was much exercised in my mind as to what subject I should select.

Two qualities seemed to be highly desirable. First, that I should have had considerable personal experience of the conditions I proposed to discuss; and second, that it should be some question which afforded a fair field for argument and debate. Beyond this, I cherished the hope that perchance with much searching I might find some topic upon which I was qualified to yield instruction.

The subject I have finally selected is one of the greatest importance to every one here, for, no matter what branch of the profession you may practise, you are almost certain to have in your hands at some time or another cases upon which abdominal operations have been recently performed; and upon the treatment you adopt under these conditions will depend in all cases the comfort, and in not a few the life, of your patient. As far as I have gone in the practice of our profession I have seen no class of case in which it is more essential to recognise the efforts which nature makes towards recovery, and to judiciously aid these efforts, than in cases of severe abdominal operations.

During the eighteen months in which I was a member of the Resident Staff of this Hospital I had under my care nearly 100 cases in which the abdominal cavity was opened. These cases include almost every recognised abdominal operation. Of the course of these cases after operation I have kept notes, and upon the observations I have made on these, and the deductions I have drawn from them, my paper to-night is almost entirely based; but whatever value it may have is due to the teaching of those members of the staff under whom it has been my privilege to work, for it is entirely in the light of that teaching that I have been able to appreciate the significance and importance of the various conditions I shall have to describe.

It is a very Irish way of stating a fact when I tell you one of the most important details with regard to the successful after-treatment has to be attended to before the operation is performed.

It is not my intention to-night to go into modes of preparation of the patient for operation. The method of preparation in vogue at this Hospital, which is (or ought to be) known to every one of you, is admirable in all three essentials of cleansing the patient's skin, emptying the lower intestinal tract, and securing that condition of gastric contents which is beloved of anæsthetists.

But it is just as well to remind you that, supposing the operation to take place at two o'clock in the afternoon, after the early morning breakfast no solid food should be taken. Half a pint of beef-tea may be given about eleven o'clock, and should the operation promise to be one of unusual length or severity, or should the patient be feeble or nervous, it is advisable to administer half an ounce of brandy diluted with water an hour before the patient is put upon the table. I am fully convinced from my own experience of the value of the last proceeding.

On reviewing my cases I find that, excluding retention of urine, three complications have called for active treatment much more frequently than any others. These, arranging them in their chronological order, are:

1. Shock.
2. Vomiting.
3. Gaseous distension of intestines.

Let us now briefly consider each of these conditions.

1. *Shock.*—At the outset it is necessary that we should recognise two forms of shock.

(1) That which, for want of a better term, we call nervous shock.

(2) Shock due to excessive hæmorrhage.

Although in these two forms the general outline of treatment adopted is the same, there are important modifications which render the distinction necessary.

I need not describe to you the symptoms of a patient suffering from shock; the clinical picture is well known to you all. When this picture meets your eye, the first question you have to decide is this: Is there hæmorrhage going on at the present time from the wound, or from the slipping of a ligature or some pedicle inside? or is the condition merely the result of a cause which has ceased to act?

If you answer the first question in the affirmative you must apply the fundamental surgical rule, and remove the cause by securing the bleeding point. This is the only rational treatment, and if the shock be severe or increasing it is little less than criminal to apply to one's soul the soothing unction that "it is probably only a little oozing, and will soon stop." Moreover, in these cases where hæmorrhage is still going on, much of the treatment one ordinarily employs becomes absolutely dangerous. If, on the other hand, you have satisfied yourself that the bleeding has ceased, the treatment of shock resolves itself into the application of common-sense principles. There is, however, an intermediate class of case, in which it is extremely difficult with any certainty to give an answer to this all-important question. One case of this kind is very vividly impressed upon my mind.

A young Italian was operated upon by Mr. Butlin for the radical cure of an inguinal hernia; he was anæmic and very nervous, and although the operation was not a severe one he suffered considerably from shock immediately afterwards. From this, however, he rallied, and when I saw him at midnight his pulse was good, he was in no distress, and his condition appeared in every way satisfactory. At ten o'clock the next morning I was sent for to see him; I found him then cold, sweating, and very pale, the temperature was a little below normal, the pulse was 110, and of poor value. I suspected at once that recurrent hæmorrhage was the cause of his condition. I examined the wound, but found no hæmorrhage from that, and concluded that probably bleeding was occurring either from the pedicle of some omentum which had been removed, or from a torn vein in the mesentery. There was, however, no dulness in the flanks. Whilst I was engaged in elevating the foot of his bed Mr. Berry came into the ward, and I asked him to be good enough to see the case with me. He did so, and whilst I could not pin him down to an actual opinion, he so far agreed with me as to say that he thought I ought to let Mr. Butlin know of the man's condition. A few minutes later the patient began to complain of uneasiness about the region of the bladder, and made an unsuccessful attempt to pass his water. I percussed out the bladder, and found that it was distended; I then passed a catheter and drew off over two pints of urine. His pulse almost immediately commenced to improve, and the symptoms of shock gradually passed off without further treatment of any kind. This case illustrates extremely well the difficulty of diagnosis; the man presented every symptom of secondary hæmorrhage except one—dyspnœa with restlessness,—a symptom to which I attach considerable importance, and of which I shall speak later.

Fortunately, however, in actual practice these cases in which one is in grave doubt are rare, and in deciding what course of action to take one is guided very much by knowledge of what happened at the operation, and the condition left when the abdomen was closed.

The routine treatment of shock is known to you all; plenty of hot blankets and hot water bottles, elevation of the foot of the bed, hot cloths to the head, and if there be no hæmorrhage going on, brandy by the rectum and strychnine subcutaneously, are classical and invaluable remedies. But in addition to these, in the second class of case we are considering (*i. e.* that due to severe bleeding) infusion is perhaps the most valuable method of treatment we have at our disposal. Several forms of infusion have been recommended, and these must be briefly considered.

(*a*) *Auto-infusion.*—By this is meant bandaging the extremities tightly, so that more blood may be available for circulation through the head and trunk. This method has little to commend it. In the first place, considerable exposure of the patient is necessary in order to adjust the bandages, and a patient whose collapse is sufficiently severe to call for this procedure is little in a condition to stand it; and secondly, it is very doubtful whether the result aimed at is attained unless the bandages are bound so tightly as to be extremely painful.

(*b*) The injection of normal saline solution, either into the cellular tissue or into the veins. This method is extremely valuable in desperate cases. But I believe its chief value to lie in those cases in which the collapse occurs on the table, and the patient is under the anæsthetic. The remedy requires a surgical operation—a special apparatus; it is by no means easy always to find a vein, and when the vein has been found it is by no means easy always to get the saline solution to run in. But its value has been demonstrated beyond doubt. Personally, I have performed the operation four times, always in desperate cases, and I regret to state that in no case have I been able to avert the fatal termination.

(*c*) There is the method of transfusion, that is the infusion of blood into the patient from a second person. This possesses few advantages over the method just discussed, and possesses so many obvious disadvantages that it cannot be considered as a method of routine treatment.

(*d*) There is infusion by the rectum. This I believe to be far the most valuable and widely applicable method of all. When much blood has been lost absorption from the rectum occurs with remarkable rapidity, and I have often seen the patient's condition obviously improve as the absorption took place. Lately it has been my invariable custom when any patient leaves the table suffering from shock due to hæmorrhage to order a rectal injection to be given as soon as she is in bed, consisting of half an ounce of brandy and ten ounces of warm water. In some cases of severe bleeding I have given a second similar injection within half an hour without any being returned. Another advantage of this method of treatment is that it tends very much to lessen the thirst, which is one of the most distressing symptoms during the first twenty-four hours. I would, then, gentlemen, urge upon you in the very strongest manner the extreme value of copious rectal injections of warm water in this class of case.

Since the above was written I have seen a very remarkable instance of the absorptive power of the rectum under these circumstances. A woman suffering from placenta prævia was brought into Queen Charlotte's Hospital. By the time I had accomplished delivery she was in an extremely collapsed and almost pulseless condition from hæmorrhage. I treated her by rectal injections, and in the course of an hour she absorbed four and a half pints of saline solution. Her condition rapidly improved, and she made a good recovery.

I have already quoted a case in which what we may term secondary shock occurred; that is to say, shock coming on some hours after operation. This is an unusual occurrence, and is generally due either to secondary hæmorrhage or to septic peritonitis. In addition to the instance I have already quoted I have seen one other such case.

A young man was operated upon for radical cure of hernia; he did very well for a few hours, then he gradually became pale, his pulse became feeble, and he commenced to suffer from dyspnœa with restlessness These symptoms progressed, and his condition became alarming. The surgeon was sent for; he diagnosed hæmorrhage, opened up the abdomen, and found that hæmorrhage was occurring from the pedicle left by the removal of some omentum.

I will ask you to contrast the two cases for a moment, and to notice the one symptom which was absent in the first case, but present in the second, was dyspnœa. I believe the importance of this symptom to be so great that I would lay it down as a rule that when you have a case of shock, with dyspnœa out of proportion to the severity of the other symptoms, the cause of the shock is probably hæmorrhage.

2. The second complication which commonly requires treatment is vomiting, and here again if we are to intelligently treat the symptom we must endeavour to recognise its cause. The form of vomiting which is met with earliest after operation is that due to the after effects of the anæsthetic. I have not been able to discover that the severity of the vomiting bears any definite relation to the particular anæsthetic used, but I am quite sure that the personal equation of the anæsthetist is a very important element.

There is one detail which I believe to be well worthy of consideration, and which is, I think, a little apt to be overlooked. I mean the way in which the patient is taken back to bed after operation. When she is lifted off the table there should be as little movement as possible, and the swinging motion so often imparted to the stretchers by enthusiastic porters should be carefully avoided.

The vomiting is especially apt to be prolonged in the case of nervous women, and in some of these cases a little judicious moral treatment is often of great value. If the vomiting persist for more than twelve or eighteen hours some other cause must be looked for.

One such cause is the presence of a Keith's drainage-tube. It is

not at all an uncommon occurrence for vomiting to persist as long as the tube is left in position. I used to think that this probably depended upon mechanical irritation of some of the plexuses of the sympathetic nervous system by the end of the tube, but in discussing this point with Mr. Cripps he informs me that he has satisfied himself that it is much more often due to some slight mechanical compression of the intestine, producing for the time being a condition akin to strangulation; and in support of this view he was able to quote a case of his own in which small pieces of omentum became strangulated in the perforation holes in the end of a Keith's tube, and produced similar symptoms.

Amongst my series of cases there are three instances of this kind. In each of them the patient was greatly distressed by persistent vomiting; in each case this lasted for seventy-two hours, and although almost every remedy I have ever used was applied, they were absolutely without effect until the tube was removed; then the vomiting ceased of its own accord, and did not recur.

Before considering other forms of vomiting it may be well to review briefly the results of the treatment applied to the forms we have already described.

It is unnecessary to emphasise again the importance of attention to diet before the operation, but I must speak for a minute of the method of feeding after operation, for the administration of food too early is almost invariably followed by vomiting. The rule adopted in cases where collapse did not call for active treatment has been to give nothing at all for six hours after the operation; at the expiration of that period to give by the mouth one drachm of warm water every hour, but in the meantime if the patient complained much of thirst the mouth was sponged out with swabs of cotton wool wrapped round a pair of pressure forceps and dipped in water. If the administration of this drachm of water was not followed by vomiting the quantity was gradually increased, and twelve hours after the operation drachm doses of peptonised milk or beef-tea were substituted for the water: the quantity was then gradually increased until five or six ounces were taken at a time. I often found that on the morning after operation the patient begged for a little tea in place of the milk. I do not know of any theoretical objection, and in the many instances in which I consented I never found a practical one. I do not think it advisable to give solid food, excepting perhaps a little thin bread and butter or something of that kind, until the bowels have been opened, and as a rule the patient has little desire for it. That is the ideal treatment which has been aimed at, but in many cases it could not be carried out.

Treatment by drugs.—The drugs I have used have been hydrocyanic acid, bismuth, tincture of iodine, and oxalate of cerium; from none of these have I obtained any uniform result. I have thought that sometimes one drug has done good and sometimes another, but my confidence in them has passed away, and is numbered amongst the lost illusions of my youth. The same must be said of champagne; I have only used it three or four times, but in none of these cases did I observe any improvement follow its administration.

There is, however, one method of treatment upon which I place considerable reliance, and that is washing out the stomach. I believe the best way to do this is not by passing the stomach-tube, but simply allowing the patient to drink half a pint of tepid water. The results of this treatment have given me the greatest satisfaction. I do not for one moment claim that it proved successful in every case, but it did so in a good proportion of the instances in which I tried it. Sometimes the water was vomited again very shortly after it was taken, and with it considerable quantities of mucus were brought up; in other cases it was not vomited, but seemed to act by diluting the stomach contents, and enabling them to pass the pylorus. I have repeated this procedure two or three times at intervals of an hour. I have never seen any harm result from it.

There are two other causes of vomiting to which I shall have to draw your attention. These are—

(1) Due to gaseous distension of intestines.

(2) Due to septic peritonitis.

But as here vomiting is merely one symptom out of many, we will consider it when we discuss the general condition.

3. *Gaseous distension of the intestine.*—This condition, the "pseudo-ileus" of some older writers, merits our very closest attention; it is a very common condition, and a very distressing one. We can do much for it, and if we fail to recognise it the result may be disastrous.

It depends, then, upon a temporary paralysis of the intestinal muscle, and this I believe is generally brought about in one of two ways; either by the prolonged manipulation of the intestines, or by the injudicious use of morphia. The first cause is often an unavoidable one, the second is seldom so; in the great majority of these cases it is an irrational and injurious practice to inject morphia, though some surgeons make it almost a routine matter. I have given it in a few cases, and have almost invariably regretted doing so. Whatever temporary relief is given by the injection is paid for tenfold in subsequent discomfort. The pain is seldom severe, and when present is not a bad sign, for it often means intestinal peristalsis. I well know the temptation when the patient lies awake, complaining of pain in the back, and begs for something to put her to sleep. But if you yield you are often bringing upon yourself a sea of troubles. I do not for one moment say that morphia should never be used after abdominal operations; there are some cases in which I consider it thoroughly good treatment, but these cases are few and far between, and I cannot enter into a discussion of them to-night.

What, then, are the signs and symptoms of this paralysis of the bowel? Of course they vary in severity, but I will describe them to you as I saw them in a case a few months ago. It was a case of unusual severity, and I believe that I produced this unfortunate train of symptoms myself by injection of six minims of liquor morphinæ.

The patient was a young woman upon whom the operation of Cæsarean section had been performed on account of a contracted pelvis. After the operation she suffered considerable pain, and on that account the morphia was given. Twenty-four hours after the administration of the drug I was called up to see her. She looked very ill; the tongue was dry and furred; the temperature 101°. She lay upon her back with the legs drawn up, and was constantly retching and vomiting; the abdomen was distended, tympanitic, and rigid. I could not detect the slightest movement on respiration. She had passed no flatus since the operation; in fact, in every detail except one she presented the picture of septic peritonitis. But when I came to feel the pulse it was of good volume, and its rate only 105 to the minute. What I learnt from the pulse led me to believe that the symptoms were those of gaseous distension of the intestine rather than those of peritonitis, and the termination of the case proved this to be correct.

Let me draw your attention for a moment to the importance of the pulse in diagnosis. I believe it to be of far greater value than any other sign or symptom. In the instance I have just given you, had the pulse been running in character, and of the rate of 120 to the minute, I should have come to a very different conclusion, particularly if I had reason to believe that its rate was increasing. It is, in my opinion, the one point in diagnosis between this condition and septic peritonitis to which we must pin our faith; every other symptom may be present in either condition. You may have vomiting, distended motionless abdomen, the anxious expression, and the furred tongue; and yet, if the pulse be good and not frequent, you may give a good prognosis. If, on the other hand, the pulse be running and rapid, your prognosis must be of the gravest.

What will happen to these cases if we leave them alone? I do not know, and I most certainly do not intend to try. Mr. Lockwood is of opinion that many of the instances in which patients have died with the symptoms of peritonitis, and in which post mortem no signs of peritonitis could be discovered, belong to this class. And that the condition should prove fatal is easy of belief by any one who has seen the cases.

I said just now that in my opinion this train of symptoms was due to paralysis and distension of the bowel. I base that belief upon the fact that if we once relieve this condition the symptoms disappear; but I am prepared to go further than this, and to state that many of the similar symptoms which occur in septic peritonitis depend simply upon a similar condition of the intestines, which results from this cause; and that even in cases of septic peritonitis, if only you can overcome this by getting the bowels to act, many of the most distressing symptoms disappear. I will give my reasons for this statement later.

It is perfectly obvious that our treatment must be directed to one object—starting up again peristaltic movements, which shall expel their gaseous contents from the intestine. Let us consider by what means we may attain this.

Usually the first means adopted is simply to move the patient. Change of position is often a great help; and sometimes, by moving the patient from her back on to her side, peristalsis is commenced. But at the same time more vigorous measures must be taken. The rectal tube should be passed, for the reflex stimulation of intestine started in this way is often effectual. Strychnine should be given subcutaneously. It is well to start with doses of not less than five minims of the liquor strychninæ; this may be repeated every two hours until the desired result is obtained. Should these measures fail, the next thing to do is to give an enema. A very excellent one is composed of half an ounce of turpentine, half an ounce of castor oil, and ten ounces of thin gruel. The reason for making it up with gruel is that the oil and the turpentine do not mix well with water.

This often requires to be followed by soap and water enemata. But after all these efforts one is sometimes doomed to failure. If, then, you are reasonably sure that there is no mechanical obstruction to the bowel, the proper thing to do is to give purgatives by the mouth. Saline purgatives in frequently repeated doses sometimes answer excellently, but they often have to be aided by a dose of calomel, and in some cases by croton oil.

The above is simply an echo of the teaching of Mr. Lockwood, which he took some pains to drill into me when I was his house surgeon. Since that time I have had many opportunities of applying it, and I have become more and more convinced of its value.

I have often wondered why text-books—even text-books of abdominal surgery—are so singularly silent on this matter. It is a condition which, from the mere discomfort it occasions the patient, even if it were unattended by any danger, would merit a chapter to itself in such works. And one of my chief objects in reading this paper to-night is to draw your attention to it.

What exact relation this condition bears to septic peritonitis I will not attempt to define, nor will I go so far as to say that if left untreated the graver complication may ensue as a direct result. But I have often wondered whether it is not possible that some of the cases of peritonitis from infection by the *Bacillus coli communis* may not arise in this way; in other words, that although the abdominal cavity may be aseptic when it is closed up after the operation, it may subsequently become infected through the functionless, distended, sometimes damaged and bruised wall of the paralysed intestine.

In the first place, there can be no doubt that when in this condition the circulation in the intestinal wall is interfered with; and as a direct result of this the tissue resistance is diminished.

Secondly, the wall is stretched; it is thinner than it should be, and therefore more easily permeable.

Thirdly, there is a stasis of intestinal contents, with consequent decomposition and increase of bacteria.

Now there is no reasonable doubt that under some conditions—little understood at present—the *Bacillus coli communis* does pass through the intestinal wall. It seems to me a logical deduction to suppose that these are the very conditions under which it is most likely to do so.

If there be any truth in these deductions, we have then another and stronger reason for immediate active and energetic treatment; for this is only an attempt to bring the intestines back to their normal condition.

I said just now that I believe that many of the distressing symptoms of peritonitis are due not so much to toxæmia as to the paralysed state of the intestines. It is a very difficult matter to get an action of the bowels in septic peritonitis, but if this be accomplished a marked change occurs in the patient's condition.

I saw a very clear instance of this in the case of a woman who was operated upon in Martha last spring. The patient was over seventy years of age, and the operation was undertaken for the removal of a tumour which, when the abdomen was opened, proved to be a large solid ovarian. The operation was performed on April 29th. On the 30th the abdomen became distended, vomiting commenced, and the pulse-rate rose to 120 beats per minute.

The treatment I have outlined above was employed, the rectal tube passed, five-minim doses of strychnine injected, enemata given, saline purgatives and calomel administered by the mouth. As the result of this treatment the bowels were opened three times. From this time the woman's condition improved, the vomiting ceased, and she was able to retain small quantities of food.

But what I particularly wish to draw your attention to is the pulse; its rate fell to 110 beats per minute, and its volume improved. After this I felt quite certain that the case was not one of peritonitis; but within a few hours the abdomen again became distended, the vomiting returned, and the temperature and pulse-rate rose. The treatment was repeated, but without effect, and within a few hours the woman died.

No post-mortem examination was made, unfortunately, but I think there can be little doubt that the case was one of septic peritonitis. This view is supported by other circumstances. A few hours before this operation the theatre had been used for another case, in which, when the abdomen was opened, a malignant cyst was discovered; this ruptured during manipulation, and a large quantity of foul pus escaped into the abdominal cavity. Within twenty-four hours the woman died. Post mortem a large quantity of fluid was found in the abdomen, which fluid gave cultures of virulent streptococci. It is only reasonable to assume that our antiseptics were deficient in some respect, and that the disease was the result of direct infection.

I admit that one case is not sufficient to base a positive assertion upon, but at the same time it is so suggestive that I cannot refrain from quoting it.

There is another condition which is sometimes difficult to diagnose from simple distension, and that is a localised peritonitis. This, in my experience, is a rare complication of abdominal section, but one of such interest and importance that I hope to be allowed to read a paper on that subject before you at some future time, and for that reason I shall not touch upon it to-night. Lack of time in the preparation has also compelled me to pass over in silence many other interesting complications. I particularly regret that I have not been able to discuss parotitis, for a study of the cases which have occurred in this hospital during the last few years has convinced me that its cause is nearly always to be found in prolonged rectal feeding, and that subsequent alterations in the salivary glands have made them a suitable nidus for bacteria, the bacteria reaching them by their ducts.

In conclusion I will ask your forgiveness for the dogmatic manner in which I have spoken on some points, and for the crude and elementary way in which I have treated the whole question. My apology is that I make no claim of originality in those points upon which I have dogmatised, but have merely applied the results of my own experience to the teaching of others, and that crudeness and incompleteness are inevitable in one who, with only a small experience, ventures to generalise.

Notes on Some Tests for "Albumen" in Urine.

By P. J. CAMMIDGE, Treasurer's Research Student in Pathology.

A LARGE number of tests for proteids occurring pathologically in urine have been proposed, but as the majority of these also give reactions with substances other than proteids, great caution is necessary before it can be stated that a patient from whom a given sample of urine has been obtained is suffering from "albuminuria." This is especially true when only traces of albumen are present and the more delicate tests are employed. As a general rule, with but few exceptions, it may be stated that the more delicate the test the greater the liability to error.

Varieties of proteids.—Clinically the "*native*" *proteids*, serum-albumen and serum-globulin (paraglobulin), are not differentiated, and are classed together as "albumen." In normal urine they can only be detected by very delicate tests after concentration of large quantities of urine.(1) *Albumoses (proteoses) and peptones* are occasional abnormal constituents of urine, the former being much the more common. True peptone (in Kühne's sense) hardly ever occurs. All urines contain more or less *nucleo-proteid*. This is a mucin-like body derived from the cells of the urinary passages, and is referred to clinically as "mucus." It is not chemically a mucus, however, although its physical characters and some of its reactions resemble those of true mucus. It is much increased in inflammatory conditions of the urinary tract, especially in cystitis, and may separate as a gelatinous precipitate on standing. Nucleo-proteids are precipitated by vegetable acids (*e. g.* acetic and citric) and by dilute mineral acids, but are soluble in concentrated mineral acids. They are soluble in dilute alkalies, and the precipitation by acids is largely prevented by considerable amounts of salts in solution. All the tests for proteids in urine which need preliminary acidification of the urine, especially with vegetable acids, are liable to cause precipitation of the nucleo-proteids, which may then be mistaken for traces of "albumen." True *mucus* is said to be present in urine in small quantities.(2) Its reactions with acids are similar to those described for nucleo-proteids.

Collection of urine.—The tests for albumen are best performed on a twenty-four hours' sample, collected in a perfectly clean bottle, which is kept in a cool place and well corked between each addition of urine. If one sample only is obtainable, it should be taken about three hours after a meal, preferably in the evening. The morning urine is least likely to contain albumen.

Tests.—In this paper I only propose to deal with a few of the commoner tests, especially noting the sources of error and the precautions necessary to guard against them in each case.

1. *Heat.—Method.*—The suspected urine is placed in a test-tube, and the upper part of the liquid heated to boiling. If albumen be

present a milky turbidity or dense cloud of coagulated proteid may appear in the heated zone.

Notes.—(*a*) *The temperature of coagulation* depends on various conditions, such as the degree of acidity of the urine, the amount of salts and urea present, and within certain limits the quantity and variety of "albumen" present. It varies from 55·6° to 82·2° C.(3)

(*b*) *Phosphates.*—All urines which become cloudy on heating do not contain albumen. Feebly acid, alkaline, or "neutral" urines may give a precipitate of insoluble earthy phosphates, which is like coagulated albumen in appearance, but is soluble in acids.

(*c*) *Carbonates.*—In the urine of vegetarians, and occasionally in other persons, a similar cloud of insoluble carbonates is formed. It disappears on the addition of a strong acid (*e. g.* nitric), with effervescence.

(*d*) *Albumen in alkaline urine.*—The normal acidity of urine is due to the presence of dihydrogen-sodium phosphates (NaH_2PO_4) in excess of the hydrogen disodium and trisodium phosphates (Na_2HPO_4 and Na_3PO_4). In alkaline urines the last two are in excess of the first, and on heating soluble compounds of albumen are formed, so that the precipitation of even considerable amounts of proteid may be prevented. The dihydrogen phosphate, on the other hand, forms an insoluble acid albuminate, which appears as a cloud or precipitate on heating.

(*e*) *Turbid urine—urates.*—The cold urine may be turbid from the presence of urates. They disappear with gentle heat. Turbidity from other causes, not disappearing on heating, may obscure the reaction of traces of albumen. To render the urine clear it should be filtered and the tests applied to the filtrate. Should simple filtration through absorbent paper be insufficient, the urine may be shaken with calcined magnesia or kieselguhr, and then filtered, or a few drops of sodium hydrate may be added, the urine left to stand half an hour or so (to allow the phosphate precipitate formed to separate out and carry with it the cause of the turbidity), and then filtered, acidified with a few drops of acetic or nitric acid, and boiled.

2. *Heat and acetic acid.—Method.*—(1) The usual way of applying the test at this hospital is to boil the upper part of a column of urine contained in a test-tube, and then add a few drops of acetic acid to the hot fluid; any precipitate which remains after the addition of the acid is regarded as albumen. (2) Another, and perhaps a better way is to boil, add one or two drops of acetic acid, boil again, and then add the acid up to ten or fifteen drops.

Notes.—(*a*) *Nucleo-proteids and mucus.*—The chief difficulty in this test arises from the nucleo-proteids and mucus. These bodies, if present in any amount, are readily precipitated by the acetic acid added, especially if the urine is poor in salts. Such a precipitate cannot, without the careful use of several other tests, be distinguished from traces of albumen. If ten or fifteen c.c. of urine be employed, and only one or two drops of acetic acid added, the "mucin bodies" are said not to be precipitated, hence the advantage of the second method described.

(*b*) *Delicacy.*—If the proper amount of acid for the particular urine under examination happens just to be hit upon, the test is very delicate, and very slight traces of albumen may be detected; but should too little or too much be added, considerable amounts of albumen may be overlooked.

(*c*) *Alkaline urine.*—The addition of the acid converts the alkaline reacting phosphates into acid phosphates, so that the albumen is no longer held in solution.

(*d*) *Phosphates.*—The phosphate cloud formed on heating disappears on the addition of acid.

3. *Heat and nitric acid.—Method.*—The upper part of a column of urine is heated to boiling, and nitric acid added drop by drop, shaking between each drop, until the urine is strongly acid in reaction. Albumen is shown by a cloud or turbidity.

Notes—(*a*) *Amount of acid.*—Too much acid must not be added, never more than one tenth of the volume of the urine. Nor must the nitric acid be added before heating, or heat applied after the addition of the acid, for coagulated albumens are soluble in hot nitric acid.

(*b*) *Nucleo-proteids and mucus.*—These bodies are not so readily precipitated by nitric as by acetic acid, hence the liability to error from this source is not so great.

(*c*) *Uric acid* and its salts in "concentrated" urines form, on the addition of nitric acid, a powdery precipitate. There is no precipitate, however, from this cause if the urine is previously diluted with an equal volume of water.

(*d*) *Resin acids.*—After the internal or external use of turpentine, benzoin, balsam of copaiba, Peru, tolu, cubebs, storax, santal, resin acids occur in the urine. They are precipitated by nitric acid, but if the urine be cooled and alcohol (2 vols. of methylated spirit) added they are re-dissolved, while any albumen remains as an insoluble precipitate.

(*e*) *Biliverdin.*—Strongly bilious urines give a precipitate of bile salts, which, after cooling, may be distinguished from albumen by their solubility in alcohol.

(*f*) *Phosphates.*—The precipitate due to phosphates is soluble in nitric as in acetic acid.

(*g*) *Albumoses* give no precipitate while the solution is hot, but on cooling they appear as a haze, which disappears on reheating.

(*h*) *Peptones and alkalcids* are not precipitated.

4. *Heller's cold nitric acid test.—Method.*—A small quantity of concentrated brown nitric acid is placed at the bottom of a test-tube, and a layer of the suspected urine carefully run on to it. If albumen is present, a white ring appears *at* the surface of contact. When the urine only contains traces of albumen a faint haze, which may take half an hour to form, appears at the junction of the two fluids.

Notes.—(*a*) *Delicacy.*—This is not a very delicate test, and does not react with such small quantities of albumen as the heat and acetic or nitric acid tests. In order that small quantities may not be missed, it is necessary that the urine be carefully added to the acid, and not the acid to the urine, for the acid albumen arising from the reaction is re-dissolved unless it is formed in a strongly acid medium.

(*b*) *Nucleo-proteids and mucus.*—Even when the reaction at the surface of contact of the two fluids fails, a feeble ring may frequently be seen, 0·5 to 1 centimetre above the junction. This arises from nucleo-proteids and mucus. On diluting the urine with two or three volumes of water, and repeating the test, the haziness is not diminished, and may indeed be increased. On standing the precipitate slowly falls to the surface of contact, and may then be mistaken for the ring produced on standing by traces of albumen.

(*c*) *Uric acid and urates.*—In "concentrated" urines a crystalline precipitate of urea nitrate is apt to slowly form. It is obviously crystalline, and on repeating the test with diluted urine does not appear. Urates may give rise to a diffuse opacity in the urine which spreads downwards, and disappears on diluting or gently heating. It is more diffuse than the precipitate due to albumen, and is often of a brown colour.

(*d*) *Resin acids.*—After turpentine, copaiba, &c., a uniform turbidity may appear in the urine from the precipitation of resin acids. The precipitate is soluble in alcohol, and the urine has frequently a peculiar smell, which has been compared to the scent of violets. One of the Sisters of this hospital recently pointed out to me that after "polishing day" in the wards, when beeswax and turpentine has been freely used for the floors, the patient's urine may have this smell.

(*e*) *Albumoses* give a precipitate similar in appearance to that produced by albumen, but it disappears on heating.

(*f*) *Peptones and alkaloids* are not precipitated.

(*g*) *A play of colours* is often seen at the surface of contact. It does not indicate albumen, but arises from uro-rosein and other pigments in the urine.

5. *Roberts's brine test.—Method.*—A saturated solution of common salt is prepared and filtered, 5 per cent. of hydrochloric acid is then added to the clear filtrate. A few cubic centimetres of this reagent are placed in a test-tube, and an equal volume of urine floated on the top. Albumen gives a white ring at the surface of contact in the cold.

Notes.—(*a*) "*Mucus.*"—This test was introduced with the object of avoiding the precipitation of "mucus," it being supposed that in the presence of a large excess of salt the "mucus" would remain in solution.

(*b*) *Delicacy.*—This is a fairly delicate test, but does not react with such small traces of albumen as tests 2 and 3.

6. *Acetic acid and salt test.—Method.*—To 10 or 15 c.c. of urine, in a test-tube, about one sixth of its volume of a clear saturated solution of common salt is added, and the two mixed by shaking. The mixture is then acidified with one or two drops of acetic acid, and the upper part of the fluid boiled. In the presence of albumen a cloud of coagulated proteid appears in the hot part of the fluid, which, by boiling, is collected into large flocculi.

Notes.—(*a*) *Delicacy and nucleo-proteid reactions.*—This test is as sensitive as the ordinary heat and acetic acid test, but when performed in the manner described above does not readily cause precipitation of mucus and nucleo-proteids. It has the advantage that the reagents necessary are easily obtained, viz. salt and acetic acid (vinegar, which contains about 6 per cent. of acetic acid, may be used), and the boiling performed in a metal spoon over a candle. It is especially useful where only traces of albumen are to be demon-

strated. In the presence of much albumen a precipitate appears at once in the cold, but is increased by heating.

(*b*) *Sugar and urea.*—In testing for sugar and estimating urea in an albuminous urine the albumen must first be removed. This is readily done by boiling the urine with saturated salt solution and acetic acid as above, then filtering off the flocculent precipitate formed, and using the clear filtrate, due allowance for the necessary dilution being made in the urea estimation.

(*c*) *Albumoses* are precipitated, but dissolve on heating, to reappear on cooling. In a mixture of albumoses and albumen, the former may be shown by filtering the boiling fluid and examining the filtrate. This, if albumoses are present, becomes cloudy on cooling, but clears again on heating.

(*d*) *Resin acids* are precipitated, but on cooling are soluble in alcohol.

(*e*) *Uric acid* in "concentrated" urines may be slowly precipitated.

7. *Potassium ferrocyanide and acetic acid test.—Methods.*—(i) acetic acid (10 to 15 drops) is placed in a test-tube, and a 5 per cent. solution of potassium ferrocyanide (30 to 60 drops) added and well mixed with the acid; the suspected urine is then run in; (ii) 10 or 15 c.c. of urine are mixed with 5 to 6 c.c. of a 5 per cent. solution of potassium ferrocyanide, and then 5 to 10 drops of acetic acid added; (iii) 5 to 10 drops of acetic acid are mixed with 10 to 15 c.c. of a saturated solution of potassium ferrocyanide, and the urine carefully floated on to the top of the mixture. In methods (i) and (ii) a uniform cloudiness shows the presence of albumen, while in method (iii) a white ring forms at the surface of contact.

Notes.—(*a*) *Delicacy and reactions with nucleo-proteids.*—This test is very sensitive, and, when performed by the above methods, avoids more successfully than most other tests the reaction with mucus and nucleo-proteids. I prefer the contact method (iii), as a slight uniform turbidity, such as is given with traces of albumen by methods (i) and (ii), is difficult to detect, while the ring in (iii) is obvious even when extremely faint.

(*b*) *Albumoses* are precipitated, but disappear on heating. It is to be noted, however, that the potassium ferrocyanide solution itself, even when dilute, is decomposed by heat, giving a white precipitate, which on standing turns blue.

(*c*) *Phosphates, urates, alkaloids, and peptones* are not precipitated.

(*d*) *Resin acids* give a precipitate, which is soluble in alcohol.

8. *Salicyl-sulphonic acid.—Method.*—A few drops of a saturated solution of salicyl-sulphonic acid are added to the urine. As each drop falls it is surrounded by a cloud if albumen is present. On shaking the urine, a uniform white cloudiness is produced.

Notes.—(*a*) *Delicacy.*—With a fair amount of albumen (1 : 20,000) the precipitate is formed immediately, but with minute traces the turbidity may not become evident for two or three minutes. It is claimed that this test is intermediate in delicacy between the heat and acetic acid and Heller's test, but on standing its delicacy is such that 1 part of albumen in 100,000 is shown.(4)

(*b*) *Mucus and nucleo-proteids.*—MacWilliams, who introduced the reagent to the notice of the profession in Britain in 1891, claimed that it did not give a precipitate with any substance in normal urine.(5 I have lately had reason to suspect that the fain thaze obtained when salicyl-sulphonic acid is added to some apparently normal urine is due rather to nucleo-proteids than to albumen.

(*c*) *Albumoses and peptones* are precipitated (the latter only when the urine is saturated with ammonium sulphate). The precipitate disappears on heating, to reappear on cooling. The precipitate due to "native" albumens does not disappear with heat, but becomes flocculent.

(*d*) *Phosphates, urates, uric acid, bile, and drugs* (*e.g.* potassium iodide, alkaloids, &c.) are not precipitated.

(*e*) *Alkaline urines.*—Enough of the reagent must be added to give the urine a distinctly acid reaction, for the albumen precipitate is soluble in dilute alkalies.

Routine Examination for Albumen.

1. *Salicyl-sulphonic acid* is a good general test. It is simple, requires no special skill, and immediately shows the presence of an appreciable amount of albumen, while on standing very minute traces are demonstrated. The only source of error is the occasional cloudiness in normal urine from nucleo-proteids.

2. The *potassium ferrocyanide and acetic acid* test, used in the manner described, is a useful second test, and the difficulty with mucus and nucleo-proteids is largely avoided.

3. *Heller's cold nitric acid test* is also a useful confirmatory test when carefully performed; for although not very sensitive, it is fairly so, and the nucleo-proteid ring, one centimetre or so above the junction, is a useful indication.

The main difficulties arise in deciding on the presence or absence of traces of albumen, and then not one, but several tests must be employed and the results compared. Still in many cases it is extremely difficult even then to give a decided opinion and the following quotation from a letter in the *Lancet* of 1882 is as true now as when it was written:—"None of the tests for albumen in urine are quite satisfactory, and we still need a test which shall be cleanly, portable, cheap, and certain."

References.

1. Schäfer, *Text-book of Physiology*, vol. i, p. 604.
2. Malfatti, *Wien. klin. Wochenschr.*, 1891, S. 433. Mörner, *Skandin. Arch. f. Physiol.*, 1895, S. 437.
3. Brunton and Power, *St. Bart. Hosp. Rep.*, 13, p. 283.
4. MacWilliams, *Brit. Med. Journ.*, April 18th, 1891.
5. *Ibid.*

Problems in Diagnosis.

THE diagnosis of the following case, as confirmed by post-mortem examination, we reserve until the March number of the JOURNAL. Meantime we invite our readers' suggested diagnosis on the points made out before death. Commentaries on the case should reach the Editor before March 1st.

Thomas R—, æt. 45, formerly ship's steward, was admitted to hospital on account of an attack of hæmatemesis on September 12th, 1896.

The attack had been preceded by one the day previously; on each occasion patient vomited about a pint of blood with clots. The day before the first attack patient noticed that his stools were black,—a thing he had never noticed before. Beyond the vomiting of blood he considered himself to be in very good health.

Patient gave the following history:—Lived at sea for sixteen years, but in England the past six years. Always enjoyed good health, and was considered a very strong man. Accustomed to take fair quantities of alcohol, chiefly whisky. No history of syphilis or malaria: had never had jaundice nor any swelling of legs. Only remembered one attack of epistaxis twelve months previously.

Condition on admission:—Blanched from loss of blood, but said colour was usually good. Pulse = 120, soft. A systolic heart murmur plainly heard, better at base than at apex. Temperature normal; constipated; no œdema; urine natural. Some epigastric tenderness, but no tumour felt in abdomen. Liver:—Nothing abnormal made out, nor any evidence of altered size. Spleen not palpable. Some large superficial veins over right pectoral muscles were said by patient to have been present since a sprained shoulder twenty years previously. Abdomen fat, but no signs of ascites. A few hæmorrhoids, which, however, never bled.

Discharged on September 26th without having developed fresh symptoms. Had regained natural colour, and seemed in excellent health.

Patient was seen for second time some nine months later, when he was noticed to be fatter, but complained of no ill-health, nor had any repetition of the hæmatemesis occurred.

He was seen again about February, 1898; he had become very stout, and had drunk malt liquors freely, as an exchange for the whisky, which he had been told was injurious to him when he was in hospital. There were no physical signs of disease to be made out at this time.

On June 22nd, 1898, patient became rather suddenly ill with nausea, tightness round chest and belly, and constipation. The following day he commenced to vomit frequently, in small quantities, and without any blood. The bowels were obstinately constipated, in spite of aperients and enemata given by the doctor; the abdominal pain became much worse. On the third day the vomiting continued, and about half a pint of blood appeared upon one occasion. The bowels were still obstructed, and the abdominal pain persisted. He was brought to the hospital in the evening, and was given a hypodermic injection of morphia, it being probable, from examination, that he was still losing blood internally. This suspicion was verified about twenty minutes after admission by the sudden vomiting of a large quantity of blood; the man died immediately afterwards.

Notes.

WE are sure that the letter which we publish in another column from Mr. Butlin, Mr. Bowlby, and Dr. Drysdale, relating to a testimonial to the late Professor Kanthack, will meet with a ready response from very many Bart.'s men. The *Cambridge Review* for January 19th contained a very sympathetic *in memoriam* notice by Dr. W. H. Gaskell, from which we quote a few paragraphs.

* * *

"IT is difficult to over-estimate the magnitude of the loss, which not only the University of Cambridge but English Pathology has sustained by the loss of Professor Kanthack.

"We who knew him well, and had seen what he had done here and at St. Bartholomew's Hospital, felt that he had a brilliant career before him, and that he would soon remove the reproach that this University had lagged behind the great German Universities in the race of pathological inquiry, and we looked forward to the time when Cambridge, never lacking able and enthusiastic students, would be proud of a school of pathology second to none. Kanthack had the enthusiasm, knowledge, and dogged perseverance needful to ensure success, and even to within a few hours of his death he contrived to think and work for the school he had already created in his mind.

"Alas for our hopes! by that fell disease, the discovery of the causation of which is the dream of the pathologist, that disease which he himself had investigated with some success, Kanthack has been taken from us at the early age of thirty-five, in the full vigour of his powers, and at the threshold of his life's work."

* * *

"NOT since Balfour died has Cambridge science suffered the loss of a professor so young and full of promise; the sense of calamity and personal sorrow for Kanthack's death recalls vividly the earlier loss I so well remember. Like Balfour, he would, if he had lived, have founded a great school; like Balfour, he leaves a void in the University it will be hard to fill, and among his friends a feeling of personal loss which will remain as long as life lasts."

* * *

MR. T. STRANGEWAYS PIGG, who was appointed to temporarily undertake the lectures in Pathology at Cambridge, has had the misfortune to contract enteric fever. He is now convalescent. At very short notice Dr. J. H. Drysdale was called upon to give the course of lectures. The electors to the Chair of Pathology met on February 11th and elected Dr. G. Sims Woodhead to the vacant professorship.

* * *

DR. BATTEN has been appointed Pathologist to the National Hospital for the Paralysed and Epileptic, Queen Square.

* * *

MR. T. J. HORDER has been admitted a Member of the Royal College of Physicians.

* * *

MR. H. MUNDY and Mr. L. B. Rawling have been elected Assistant Demonstrators of Anatomy.

* * *

IN consequence of these appointments, Mr. Cholmeley becomes senior, and Mr. A. E. Carsberg junior house surgeon to Mr. Willett, while Mr. Rowe and Mr. Pollard become senior and junior house surgeons respectively to Mr. Butlin.

* * *

WE are requested to state that Mr. H. J. Paterson has resigned his position on the staff of the Hospital of St. Francis.

* * *

MR. F. H. MATURIN has taken the degrees of M.B. and B.C. at the University of Cambridge.

* * *

DR. W. J. COLLINS, ex-Chairman of the London County Council, has been appointed by the President of the Board of Agriculture to represent the Council on a Departmental Committee to inquire into the Diseases of Animals Act.

* * *

THE Parkes Memorial Medal in Hygiene at Netley was awarded to Mr. A. L. Scott, who passed out third with 4673 marks.

* * *

WE welcome the advent of yet one more club in our midst, to wit, the Chess Club. Though late in coming it should promise to be well supported, for there must be a number of Bart.'s men who indulge in the royal game, and who would be glad to meet in friendly contest. The Hon. Sec., Mr. P. Wood, will be pleased to hear of any such. We wish the club every success.

* * *

ANOTHER addition has been made to the list of our contemporaries by the publication of the *Broad Way*, or Westminster Hospital Gazette. The name is a suggestive one for a paper of such frivolous tendencies as this appears to be. Nevertheless we congratulate the editors on the enterprise they display.

Amalgamated Clubs.

RUGBY UNION FOOTBALL CLUB.

ST. BART.'S *v.* EAST SHEEN.

Played on Wednesday, November 2nd, resulting in a narrow defeat by a try to *nil*. The game was played in wretched weather, a high wind and rain discounting any accurate play. Losing the toss, we had to play with all the conditions against us, but managed to prevent our opponents from scoring.

In the second half we did most of the pressing, and Wells dribbled

over, but the wind carried the ball beyond the dead-ball line. At the very last moment of the game East Sheen scored a try, and snatched a somewhat lucky victory.

ST. BART.'S *v.* R.M.A.

Played at Woolwich on November 9th. We were defeated by 8 points to 3. There was very little to choose between the teams for some time after each side had pressed. One of our opponents' three-quarters gained a try between the posts, and this was converted. Soon after this we scored a try through the agency of Plews after a good run by James, the kick failing. After half-time our forwards fell off, and the Academy scored a penalty goal.

ST. BART.'S *v.* OLD MERCHANT TAYLORS.

Played on December 17th. We were unfortunate in having a weak team owing to the approach of vacation. We also had to play one short owing to a misunderstanding, and met with a severe defeat by 3 goals and 3 tries to 1 try. For the first quarter of an hour our seven forwards played remarkably well, quite holding our opponents, and once we nearly scored. Our opponents, warming to the game, then began to press, and, playing a strong attacking game, obtained three goals by half-time. In the second half they scored three times more. Our try was scored by James after a really brilliant run from our "25." On one or two other occasions we showed up well, a badly directed pass to Dix preventing a certain try. Altogether we were unlucky to be beaten by so wide a margin.

ST. BART.'S *v.* KENSINGTON.

Played at Wood Lane on January 14th. Wells kicked off for Bart.'s. Some good play was seen, the Hospital having rather the best of matters. Carroll, by a very lucky run, scored close to the posts; O'Neill failed to convert. Then Kensington scored, but failed to convert. Play of a very even character then took place, and half-time arrived without further score.

Soon after restarting Scowcroft scored wide for Kensington, but the try was not converted; and before long Dix put us on equal terms by obtaining a try wide out, O'Neill again failing with the place kick. About five minutes from the finish Scott unfortunately injured his leg, and Kensington scored twice in succession by Scowcroft, neither of the tries being converted. Final scores:—Bart.'s, 2 tries; Kensington, 4 tries.

Although we were beaten by two tries, the men showed good form. Had the team been at full strength the result would probably have been different. We missed Mayo and James from the three-quarter line sadly. O'Neill, Tosswill, Gillies, and Ash played well, Gillies putting in some fine pieces of work. Carroll, who was seen for the first time in the three-quarter line, did very well, his dodging being very good. Team:

A. B. Slatis (back); J. B. Gillies, F. R. Carroll, C. Dix, E. W. Price (three-quarter backs); B. N. Ash, W. H. Scott (half-backs); A. J. W. Wells (captain), C. H. D. Robbs, H. C. Adams, L. R. Tosswill, A. O'Neill, H. T. Wilson, J. M. Plews, R. Im. Thurn (forwards).

ASSOCIATION FOOTBALL CLUB.

So far the Hospital has had a very successful season, only losing two matches out of thirteen, all the remainder being won, and scoring fifty-four goals against fourteen. For the Hospital Ward has played a consistently good game, and the inside forwards have much improved in dash aud accurate shooting. The team have been lucky in securing the services of Fowler at back to replace Whitaker, last year's captain. Butcher, in goal, is as good as ever. In the draw for the Hospital Cup we have been drawn against Middlesex, and if the team play up to their usual form we ought to have no difficulty in qualifying for the semi-final round.

DRAW FOR INTER-HOSPITAL CUP.

First Round.

A. University *v.* London.

Second Round.

B. Middlesex *v.* St. Bart.'s.
C. St. Mary's *v.* St. George's.
D. Winner of A. *v.* St. Thomas's.
E. Charing Cross *v.* Guy's.

Semi-final.

C. *v.* D.
E. *v.* B.

Final.

C. or D. *v.* E. or B.

ST. BART.'S *v.* WEYBRIDGE.

In this match, played at Weybridge on November 26th, Bart.'s won very easily by 6 goals to *nil*. Weybridge were only able to put their reserve team in the field against us, as their First XI were engaged in the Amateur Cup *v.* Old Malvernians. Goals were obtained by Willett (2), O'Brien (2), Ward (1), Marrett (1). Team:

H. H. Butcher (goal); T. H. Fowler, L. Orton (backs); E. H. Scholefield, A. H. Bostock, T. Bates (halves); H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward, G. H. Orton (forwards).

ST. BART.'S *v.* HASTINGS AND ST. LEONARDS.

This match took place on November 30th on the Central Ground at Hastings before a very large attendance, the game ending in a win for the Hospital by 2 goals to 1. Bart.'s were without the services of Willett, but the vacancy was very ably filled by Whitaker at half.

A short time after the commencement of the game, from a *mêlée* in front of goal O'Brien headed the ball through, thus registering our first point. Nothing further, however, was scored before half-time.

On restarting the game, from a run by our left wing Lister put in a good shot, which the Hastings custodian failed to clear properly, and Ward and O'Brien, rushing up, charged the ball into the net. Shortly after the home team were awarded a penalty for a foul within the twelve yards' line, and were fortunate enough to score, Butcher having hard lines in not saving. For the Hospital, Orton and Fowler played a very good game at back, and Whitaker was excellent at half. B. Middleditch played well for Hastings. Team:

H. H. Butcher (goal); T. H. Fowler, L. Orton (backs); L. E. Whitaker, A. H. Bostock, T. Bates (halves); H. N. Marrett, V. G. Ward, H. E. Thomas, C. O'Brien, F. S. Lister (forwards).

Our match at Hastings is always looked forward to as quite one of our best matches in the season, it being invariably a keenly contested game; and the match this year was by no means an exception to the rule. It is highly satisfactory to be able to say that out of the six successive matches that have been played against Hastings and St. Leonards the Hospital team have not been beaten once.

After the match the Bart.'s team were very hospitably entertained at a high tea and an excellent smoking concert, arranged by Old Bart.'s men now in practice in Hastings and St. Leonards. A report of this will be found in our December number.

ST. BART.'S *v.* EASTBOURNE.

This match, which should have been played at Eastbourne on Wednesday, December 7th, was unfortunately scratched owing to the ground being unfit.

ST. BART.'S *v.* WEST KENT.

This match, played at Winchmore Hill on Saturday, December 10th, resulted in an easy victory for the Hospital by 8 goals to 1. Our opponents, winning the toss, selected to play from the Pavilion end. O'Brien started the game for the Hospital, and after some good passing among the inside forwards was able to score our first point. Shortly after, Willett, receiving the ball on the half-volley from a pass by Ward, beat the opposing custodian with an excellent shot; and a few minutes later, from a *mêlée* in front of goal, Orton put the ball into the net, thus securing our third goal.

After the interval Bart.'s had the game all their own way, and adding five more goals to their total, won a very one-sided game by 8 goals to 1. Goals for the Hospital were obtained by O'Brien (2), Willett (2), Ward (2), Orton (1), Marrett (1). Team:

F. N. White (goal); T. H. Fowler, C. H. Turner (backs); G. W. Miller, T. Bates, C. H. Fernie (halves); H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward, G. H. Orton (forwards).

ST. BART.'S *v.* CROUCH END VAMPIRES.

In this match, played at Wood Green on Saturday, December 17th, our opponents were obliged to put only a weak team in the field against the Hospital owing to their First XI being engaged in the Cup tie. From start to finish Bart.'s had the game completely in their hands, and eventually won the game by 8 goals to *nil*, Butcher, in goal, scarcely touching the ball once. Ward (4), Willett (2), O'Brien (2), scored the goals for the Hospital. Team:

H. H. Butcher (goal); T. H. Fowler, C. H. Turner (backs); G. W. Miller, A. H. Bostock, C. H. Fernie (halves); H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward, G. H. Orton (forwards).

ST. BART.'S *v.* CROUCH END VAMPIRES.

Played at Wood Green on January 21st in most unpropitious weather, the ground being inches deep in mud, and a heavy wind blowing. The Vampires had their full cup team out with one exception, while Bart.'s had three reserves in their back division.

Playing with the wind behind them the Hospital team had the best of the first half, but only managed to score once through Ward, while the Vampires also scored once. In the second half against the wind the Hospital were naturally on the defensive most of the time, but the forwards playing very well together made many attacks on the Vampires' goal, and just before the finish were rewarded, our second goal coming from Marrett from a hard low shot. No further scoring took place, and the Hospital won a meritorious victory by 2 goals to 1, this being their twelfth successive victory. The forwards all played excellently, and of the defence Thomas, Miller, and Turner were the best, while Butcher had no chance with the goal against us, and saved many other shots in his usual safe style. Team:

H. H. Butcher, T. H. Fowler, C. H. Turner, T. Bates, H. E. Thomas, G. W. Miller, H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward and F. S. Lister.

INTER-HOSPITAL CUP.—SECOND ROUND.

ST. BART.'S HOSPITAL *v.* MIDDLESEX HOSPITAL.

Played Wednesday, February 1st. In this match, played at Winchmore Hill, Bart.'s won a very one-sided game by 5 goals to *nil*. The Hospital were not quite at their full strength, Thomas and Orton being absentees from the team, but their places were very ably filled by Masterman and Turner respectively. Willett losing the toss O'Brien started the game from the Pavilion end, and the Hospital forwards soon getting together, Ward and Lister broke away, transferring to O'Brien, who scored our first point with a good shot. A few minutes later Ward and Willett added two more goals to our score. At the interval Bart.'s were 3 goals, Middlesex Hospital *nil*. On restarting Bart.'s had the game all their own way, the efforts of the opposing forwards being completely frustrated by the combination of Fowler and Turner at back, Butcher in goal scarcely being called upon to defend.

Several good shots were saved by the opposing custodian from the inside forwards, until O'Brien was successful in adding two further points to our score in quick succession, the game ending as stated above.

H. H. Butcher (goal); T. H. Fowler, C. H. Turner (backs); A. H. Bostock, W. H. Masterman, T. Bates, H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward, F. S. Lister (halves).

ST. BART.'S *v.* PEMBERTON.

Played Saturday, February 4th, at Wadham Lodge, Walthamstow, the ground being in a very unfavourable condition for accurate kicking and passing, owing to a severe thaw setting in after the recent frost. Willett lost the toss, and our opponents playing with the wind slightly in their favour soon tested Butcher with a hard shot, which was very cleverly got rid of. Shortly after Pemberton's left wing broke away and opened our opponents' score with a good side shot. On restarting the Hospital forwards after a combined run were rewarded with a goal from O'Brien. The remaining portion of this half of the game was confined to the Pemberton goal. The opposing left wing, in whom our adversaries placed most reliance for increasing their score, being completely nonplussed by the indefatigable tackling of Miller and Fowler. From a *mêlée* in front of goal Ward added our second point. A few minutes later Pemberton again scored, Butcher stopping a difficult shot, but being unable to clear in time was rushed through the goal. O'Brien retaliated for Bart.'s, adding the third goal to our score. At the interval Bart.'s 3, Pemberton 2. Before time was called, however, Pemberton scored again, the game ending in a draw.

H. H. Butcher (goal); T. H. Fowler, C. H. Turner (backs); G. W. Miller, T. Bates, N. E. Waterfield (halves); H. N. Marrett, J. A. Willett, C. O'Brien, V. G. Ward, R. Walker (forwards).

JUNIOR INTER-HOSPITAL ASSOCIATION CUP TIES.

Result of Draw.

A. St. Mary's *v.* St. Thomas's.
B. Middlesex *v.* London.
Byes—Guy's and St. Bart.'s.

To be played on or before February 18th on the ground of the first-mentioned.

C. St. Bart.'s *v.* winner of B.
D. Winner of A. *v.* Guy's.

To be played on or before February 22nd on the ground of the first-mentioned.

Final.

Winner of C. *v.* winner of D.

To be played on or before March 8th on a neutral ground.

HOSPITAL GOLF HANDICAP.

First Round.

Dr. Calvert beat C. G. Watson.

Second Round.

Dr. Calvert	beat	Dr. Drysdale.
H. J. Waring	,,	E. Willett.
R. C. Bailey	,,	R. Margetts.
E. J. Buttar	,,	R. C. Wilmot.
C. Murdoch	,,	A. A. Bowlby.
A. N. Weir	,,	J. Valerie.
Dr. Shore	,,	E. Hunt.
W. V. Wood	,,	R. Bigg.
F. W. Robertson	,,	E. Parbury.
H. Whitwell	,,	L. Bigg.
C. A. Anderson	,,	S. H. Gibson.
J. B. Gillies	,,	W. Almont.
E. L. Martin	,,	Dr. Andrewes.
P. Furnivall	,,	W. D. Harmer.
Howard Marsh	,,	L. Amsden.
H. W. Lance	,,	Dr. Morley Fletcher.

Third Round.

Dr. Calvert	*v.*	H. J. Waring (scratched).
E. J. Buttar	beat	R. C. Bailey.
A. N. Weir	,,	C. Murdoch.
Dr. Shore	,,	W. V. Wood.
H. Whitwell	,,	F. W. Robertson.
J. B. Gillies	,,	C. A. Anderson.
P. Furnivall	,,	E. L. Martin.
Howard Marsh	,,	H. W. Lance.

Fourth Round.

E. J. Buttar	beat	Dr. Calvert.
A. N. Weir	,,	Dr. Shore.
H. Whitwell	,,	J. B. Gillies.
P. Furnivall	,,	Howard Marsh.

Semi-Final.

A. N. Weir	to play	E. J. Buttar.
H. Whitwell	,,	P. Furnivall.

CHESS CLUB.

The Officers of the above club were elected at a representative meeting held for the purpose on February 6th. They are as follows:

President.—Mr. D'Arcy Power.

Vice-Presidents.—Mr. H. W. Carson, Mr. T. J. Horder.

Hon. Sec.—Mr. Percival Wood.

Committee.—Messrs. Jameson, Letchwood, Mayo, White, Meaden, and Hertzeim.

Mr. Carson has kindly consented to act as referee to the club. The immediate object of the formation of the club has been to enable Bart.'s to join the Inter-Hospital Chess Club, recently started, in time to participate in the Annual Tournament this winter. Any members of the Amalgamated Clubs, therefore, who are interested in the game are invited to communicate with the Secretary as early as possible, so that a good team may represent Bart.'s at the Inter-Hospital encounter. The date of this will probably be fixed for the first week of March. Further notices will be published of arrangements connected with our own club as soon as these are fixed.

Abernethian Society.

ON Thursday, January 19th, a meeting of the Society was held, when Mr. Thursfield, president, occupied the chair. Mr. Williamson read a paper on "Some Complications following Abdominal Operations," which provoked a lengthy discussion. A full report will be found on page 69 of the JOURNAL.

On Thursday, January 26th, a "Clinical Evening" was held; Mr. Stawell, Vice-president, in the chair. Mr. J. L. Maxwell showed two microscopic specimens, one from the lung of a patient admitted to the Dulwich Infirmary for pneumonia, and dying about a month later with uræmia; the other from tumour of the breast.

Mr. Granville read notes of a case of death under anæsthesia.

The patient was a boy æt. 17. The heart before the administration appeared normal, and was found at the autopsy to be quite healthy. Gas and oxygen were given at first for twenty minutes; the patient was then allowed to come round, chloroform was then substituted, anæsthesia being induced in two minutes. This was maintained for five minutes, when it was found that symptoms of heart failure were presenting themselves. Strychnine and ether were injected, and artificial respiration was resorted to for two hours. In spite of everything that was done, including the injection of the above drugs also into the heart and electricity to the same organ, the patient succumbed.

An interesting case of osteo-arthritis, in which there was ankylosis of the spine, was shown by Mr. Bremridge. The patient was an ex-policeman, æt. 27. Other articulations were also involved in the disease.

Mr. Bremridge also showed a patient who had been suffering from appen licitis, and in whom glycosuria had commenced during his stay in the hospital. Mr. Cammidge made a communication respecting the examination of urine for blood. A specimen of carcinoma of the œsophagus occurring with phthisis was shown by Mr. Forbes.

On Thursday, February 2nd, a meeting was held, Mr. Douglas, vice-president, occupying the chair. Mr. F. C. Wallis read a paper on "The Treatment of Certain Simple Fractures by Operation." The lecturer referred to fracture of the patella, olecranon process of the ulna, Pott's fracture, and some fractures of the tibia and fibula. He urged that, provided strict asepsis was secured, there was no more danger in wiring fractures, such as the above, than in allowing them to remain simple fractures, and that the results were better and much time saved to the patient. He did not advocate wiring in all cases, *e.g.* in fracture of the olecranon with little separation. A patient was shown in whom a fracture of the tibia and fibula had been successfully treated by wiring.

On Thursday, February 9th, a meeting was held in the Anatomical Theatre, when Mr. Horder, president, occupied the chair.

Mr. Litler-Jones read a paper on "Some Notes on the Plague." Several lantern slides of photographs taken by the author were thrown upon the screen in illustration of an exceedingly interesting account of his practical work whilst on "plague duty."

Mr. Jameson, who had been a colleague of the lecturer's in India, spoke upon several of the points raised by Mr. Jones. Specimens of various organs infected by the plague bacillus were shown, those exhibiting the characteristic hæmorrhages being especially well preserved.

Memorial to the late Dr. Kanthack.

To the Editor of the St. Bartholomew's Hospital Journal.

DEAR SIR,—The premature death of Dr. Kanthack has been so much felt by his numerous friends, that we have received letters from many quarters suggesting the propriety of raising a fund to commemorate his work. It is probably not generally known that, largely on account of his generous expenditure of money in his various researches, he had not been able during the few years in which he was in receipt of an adequate income to provide sufficiently for his widow.

It is therefore proposed to raise a fund, the interest of which shall be devoted to the use of Mrs. Kanthack during her life, whilst the capital amount can eventually be employed in founding some permanent memorial to the late Dr. Kanthack. All who desire to contribute to the fund are requested to send subscriptions to Dr. Drysdale, 25, Welbeck Street, London, W.

We remain, dear Sir,

Yours truly,

HENRY T. BUTLIN,
ANTHONY A. BOWLBY,
J. H. DRYSDALE.

February 13th, 1899.

The Rahere Lodge, No. 2546.

AN ordinary meeting of the Rahere Lodge, No. 2546, was held at Frascati's Restaurant on Tuesday, February 14th; W. Bro. T. G. A. Burns, W.M., in the Chair. Bro. Dr. C. H. Roberts was raised to the third degree; Bros. Lewis, Kennedy, and Hood were passed to the second degree; Messrs. E. H. E. Stack and Sydney Cornish were elected members of the Lodge, and were afterwards initiated into freemasonry. A vote of one guinea was confirmed towards the maintenance of "Our Brother's Bed" in the Home for the Dying, and a sum of five guineas was entrusted to the W.M. and officers of the Lodge for the relief of any urgent case of distress which might arise. W. Bro. Burns was elected a steward to represent the Girls' School at the ensuing Masonic Festival; W. Bro. Izard to represent the Lodge at the Boys' Festival, and Bro. Coventon to represent the Lodge at the festival for the old people. A sum of ten guineas each was voted from the Lodge funds to each of the three charities. The members of the Lodge with their guests afterwards dined together to the number of forty.

The Month's Calendar.

[Secretaries of Clubs, &c., are requested to co-operate in making this list as complete as possible by forwarding notices of forthcoming events to the Editor.]

February 15th.—Clinical Lecture at 2.45, Mr. Langton.
" 16th.—Cup tie, *v.* St. Mary's Hospital Rugby F.C., at Richmond. Abernethian Society Address by Dr. Griffith, at 8 p.m., on "The Conduct of Labour in Private."
" 17th.—Clinical Lecture at 1 o'clock, Dr. Church. Dr. Church and Mr. Willett's duty.
" 18th.—Association F.C. *v.* Marlow, at Marlow.
" 21st.—Dr. Gee and Mr. Langton's duty.
" 22nd.—Clinical Lecture at 2.45, Mr. Butlin. Association F.C. *v.* Hampstead, at Winchmore Hill.
" 23rd.—Abernethian Society, Mr. Thursfield's paper, "Concerning Pleurisy."
" 24th.—Clinical Lecture at 1 o'clock, Dr. Gee. Sir Dyce Duckworth and Mr. Marsh's duty.
" 25th.—Rugby F.C. *v.* Rosslyn Park, at Richmond. Association F.C. *v.* West Kent, at Chislehurst.
" 28th.—Dr. Hensley and Mr. Butlin's duty. Rugby F.C. *v.* Upper Clapton, at Clapton.
March 1st.—Examination for Hichens Prize. Clinical Lecture at 2.45, Mr. Marsh. Association F.C. *v.* Emeritis, at Winchmore Hill.
" 2nd.—Abernethian Society, Dr. Andrewes' paper, "The Causation of Summer Diarrhœa."
" 3rd.—Clinical Lecture at 1 o'clock, Sir Dyce Duckworth. Dr. Brunton and Mr. Walsham's duty.
" 4th.—Rugby F.C. *v.* Marlborough Nomads, at Winchmore Hill. Association F.C. *v.* Pemberton, at Winchmore Hill.
" 7th.—Dr. Church and Mr. Willett's duty.
" 8th.—Clinical Lecture at 2.45, Mr. Marsh.
" 9th.—Abernethian Society, Mr. Coleman's paper, "Tuberculin."
" 10th.—Clinical Lecture at 1 o'clock, Dr. Hensley. Dr. Gee and Mr. Langton's duty.
" 11th.—Association F.C. *v.* Reigate Priory, at Reigate.
" 14th.—Sir Dyce Duckworth and Mr. Marsh's duty.
" 15th.—Clinical Lecture at 2.45, Mr. Marsh. Association F.C. *v.* Civil Service, at Winchmore Hill.
" 16th.—Abernethian Society Annual General Meeting, at 8 p.m.
" 17th.—Clinical Lecture at 1 o'clock, Dr. Brunton. Dr. Hensley and Mr. Butlin's duty.

Reviews.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD, by DAWSON WILLIAMS, M.D. (London: Cassell and Co. 10s. 6d.)

The statement that "no matter where you are, half your practice will be among children," is a well-known "clinical aphorism" in this Hospital; and yet how few take it to heart in their student days! Indeed, it is not uncommon for a dresser or clerk to deliberately avoid juvenile patients. Sooner or later he repents, and then books of the type before us come to his aid. But not only to the once neglectful student are these pages of interest and use. They are penned by one of much clinical experience in the department of which he treats, and may with advantage be read by all. The style is attractive, and the author is not lacking in a sense of humour. In his remarks on methods of examination he advocates that the child be given the opportunity "to complete his examination of the physician, which, it must always be remembered, must be allowed to precede the examination of the patient by the physician." He pleads for the importance of his theme, for a quarter of the total population are under ten years of age, and the mortality among infants and children is enormous. Notwithstanding these facts, it is not uncommon to find the diseases of children made light of, and to hear the "therapeutics of the nursery" spoken of with a certain scorn. Most unjustifiably so, for it is a frequent observation that children react to treatment remarkably quickly.

Dr. Dawson Williams' experiences at Shadwell have evidently left him with a low estimate of the common sense and capacity of the average British mother—an estimate with which most medical officers of hospitals have only too much reason to agree.

Busy practitioners who have not the time to read such works as those of Eustace Smith or Ashby and Wright will find in this book full information combined with compactness of treatment. In this respect it marks a distinct advance. Such subjects as night terrors and pica receive due notice—just those subjects which so few books deal with, and which every practitioner soon has to face. Under the former head we notice, however, that the author apparently does not attach much importance to peripheral exciting causes, regarding it as a neurosis. Yet we would venture to suggest that adenoid vegetations will be found not uncommonly to be associated with night terrors, causing, as they so often do, a partial asphyxia in sleep.

The work has many excellent illustrations, and a few which cannot be so designated. In the latter category we should place the picture of adenoid vegetations on page 339, which really has most of the possible faults, in that it is both confusing and conveys very little idea of the actual location of the growths. But these are small points compared with the general sustained excellence of the book.

GUIDE TO THE CLINICAL EXAMINATION AND TREATMENT OF SICK CHILDREN, by JOHN THOMPSON, M.D., F.R.C.P.Edin. (Edinburgh: W. F. Clay and Co. 9s.)

Here is another indication of the attention which is now being paid to this important subject. It is indeed a change from the days, still remembered by many, when the only work on the diseases of children in English was one which actually entirely omitted mention of rickets, pre-eminently the English disease of children.

That the examination of children is fraught with difficulty is but too common an experience of all. The examination of the throat is of paramount importance, but it can only be accomplished by force. We may wish to call the ophthalmoscope to our aid in many a case where it is of the highest value, but before being able to do so a most exasperating half-hour will often be spent. As for the laryngoscope, it is out of the question except under an anæsthetic. We turn to the chest; though percussion may afford us frequent opportunities of hearing the "cracked-pot" sound, even that pleasure palls, and when we use the stethoscope our patient adds a rich crop of adventitious sounds.

The scope of this book is avowedly supplementary, being chiefly practical. It is abundantly illustrated by photographs, and within the limits the author has laid down for himself may be unhesitatingly recommended.

THE YEAR-BOOK OF TREATMENT FOR 1899: a Critical Review for Practitioners of Medicine and Surgery. (London: Cassell and Co.)

Once again we can praise this excellent compendium of the advances in treatment during the year. As this is almost precisely on the lines of the preceding volumes, we have little to add to what we have formerly said. Each section is undertaken by an expert in the particular branch treated of, and valuable discussions on methods still under trial will be found. The new tuberculin, Coley's fluid, and operations for angular curvature, to mention but a few points, are excellently summarised. Dr. Burton-Fanning contributes a new feature in his article on the open-air treatment of phthisis. Occasionally the "critical" side is hardly prominent enough. For instance, we should be sorry to think that Dr. H. P. Hawkins fully agrees with all Robin's detailed treatment of hæmatemesis. Some of it appears to us positively dangerous. And why did the editor allow Dr. Handfield-Jones to employ such a hideous word as "sizeable"? Besides, apart from the context, who can tell what it means?

GANT'S GUIDE TO THE EXAMINATIONS BY THE CONJOINT BOARD. Seventh edition, revised by WILLMOTT EVANS. (London: Baillière, Tindall, and Cox. 5s.)

Of this book we can only repeat what we have said of similar compilations—that if they are really necessary they form a heavy indictment of our present examination system. We should be sorry to be left in the hands of a practitioner who had only obtained his qualifications by the aid of such a "Baedeker" to the well-known building on the Embankment.

We have received from Messrs. Cassell and Co. *Letts's Medical Diary* for 1899. This well-known and useful little pocket-book can be obtained in cloth for 2s. 6d., or in French morocco for 3s. 6d. At the risk of being thought captious, we might suggest that in a compilation of this kind it ought not to be necessary to give instructions for administering a hypodermic injection. Also that, as far as this hospital is concerned, the hours of attendance given on p. 15 stand in need of revision.

We have also received the tenth edition of a *Syllabus of Materia Medica*, revised in accordance with the British Pharmacopœia, 1898, by Wm. Martindale (London: H. K. Lewis, 1s.), a *Pocket Medical Dictionary*, by George M. Gould, M.D. (same publishers, 2s. 6d.), and a *Dictionary of Hygiene*, by Kingzett and Homfray (Baillière & Co. 2s. 6d.).

New Productions.

WE have received a sample box of Messrs. Cadbury and Sons' specialities. Whether the article be their well-known cocoa preparations, or the more dainty confectionery of which cocoa forms the chief basis, all Messrs. Cadbury's goods are without rival for their purity. It is well that the lay mind has for a long time come to the same conclusion; it shows that the public judgment may sometimes be trusted to lead straight. We recently came across an interesting historical account of the cocoa industry, published by this firm, and issued in a very readable form. Any of our readers who may meet with it need not throw it aside in disgust, therefore, as "merely another advertisement."

THE Distillers' Co., Limited, have forwarded us from Edinburgh a specimen of their Extract of Malt. We can recommend the preparation highly, having given it a trial with satisfactory results.

Correspondence.

To the Editor of the St. Bartholomew's Hospital Journal.

"THE MICROSCOPIC DIAGNOSIS OF TUBERCULOSIS."

SIR,—In ST. BARTHOLOMEW'S HOSPITAL JOURNAL for October, 1898, Dr. Kanthack, in the course of an article on "The Microscopic Diagnosis of Tuberculosis," refers with disapproval to "Gabbett's method" of staining. May I venture to point out (as the person most concerned) that I have never dignified my little bit of technique by the title of a "method"? It is, as I wrote when I suggested it, merely a slight modification of the Ziehl-Neelsen method, introduced simply for the purpose of saving time. The principle is identical, the stain is the same, the decolourising agent is the same; I merely dissolve some blue in the sulphuric acid to avoid the trouble of

subsequent counter-staining. I am at a loss to understand how this can diminish the reliability of the method. It certainly does not affect the decolourising power of the acid, nor does it in any way render it difficult to estimate the degree to which decolourising has been carried, for in the Ziehl-Neelsen method this can only be ascertained after the specimen has been taken out of the acid and washed in water; and when this is done in the case of my modification all imperfectly decolourised parts show this red tinge quite clearly through the faint blue of the film, indicating that the preparation should be replaced in the acid. But a film of proper thinness can always be efficiently decolourised in a minute or two if the watch-glass is kept in motion as I recommend.

Dr Kanthack refers to one published case in which sputum stained by "Gabbett's method" showed red bacilli, though tuberculosis could be excluded. The statement would have weight against the reliability of the process adopted if it could be shown that other methods would not have given similar results, or if we could be sure that the process was correctly carried out. It has long been known that "smegma bacilli" retain the red stain (like tubercle bacilli) after treatment with acid, and that immersion in alcohol is necessary for purposes of differentiation. As a matter of routine, I have always treated the cover-glass films with absolute alcohol after washing in water, and I have satisfied myself by experiment that the colour is thus removed from the "pseudo-tubercle bacilli." There seems to be no new principle involved in Honsell's method.

My only reason for troubling you with this note is that my simplification of the Ziehl-Neelsen method has been rather widely adopted, and it seems undesirable that it should be discarded without sufficient reason.

Yours faithfully,
HENRY S. GABBETT.

Eastbourne, *December 24th.*

P.S.—Since writing the above I have seen the announcement of the death of Professor Kanthack, an announcement which must cause the most profound regret to all who are interested in the progress of pathological science.

Examinations.

UNIVERSITY OF LONDON.

Intermediate M.B.

Entire Examination:

First Division.—H. W. James.

Second Division.—H. Love, A. E. Thomas.

Excluding Physiology:

Second Division.—A. M. Amsler, P. G. Harvey, H. H. Raw.

Physiology only:

First Division.—A. H. John, R. A. Lloyd, E. C. Mackay, A. S. Woodwark.

Second Division.—J. C. M. Bailey, J. S. Gayner, S. B. Green, C. H. D. Robbs, J. J. S. Scrase.

Preliminary Scientific Examination:

Chemistry and Physics.—A. R. Neligan, A. D. White.

Biology.—O. E. Lord, E. F. Travers.

CONJOINT BOARD.

Final M.R.C.S., L.R.C.P.

The following have received their diplomas:—G. A. W. Spear, J. H. Kemp, H. Vaughan-Pryce, H. F. Parker, E. P. Sewell, F. A. Rose, J. E. Manlove, H. J. Hutchens, C. H. Barnes, A. M. Ware, A. L. Vaughan, L. Jones, R. S. F. Hearn, F. G. Richards, G. N. Stephen, J. H. Rhodes, A. R. Kay, T. D. Dawson, W. J. McCoy, M. D. Wood, J. A. P. Barnes, L. A. Baiss.

Anatomy and Physiology.—H. M. H. Melhuish, W. V. Wood, A. K. H. Pollock, C. S. Woodwark, H. W. Pank, R. C. Elmslie, A. F. Van Dyk, R. J. Morris (old regulations).

Chemistry.—T. W. Chaff, L. B. Bigg, S. E. Crawford, M. Herzheim, H. M. Huggins, C. S. Kingston, E. Leverton-Spry, C. W. O'Brien.

Practical Pharmacy.—T. W. Chaff, H. H. Butcher, C. Dix, H. E. Flint, H. Goodman, L. M. Morris, C. L. C. Owen, P. H. Scholberg (old regulations).

Elementary Biology.—M. Herzheim, T. R. Couldrey, R. M. Im Thurn, P. J. Martin, A. R. Wade.

Appointments.

BATTEN, FREDERICK E., M.A., M.D.(Cantab.), M.R.C.P.(Lond.), appointed Pathologist to the National Hospital for the Paralysed and Epileptic, Queen Square, *vice* Dr. Risien Russell, appointed Assistant Physician.

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BENNETT, H. C., M.B., M.R.C.S., L.R.C.P., appointed House Physician to the Sunderland Infirmary.

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BURD, C. P., M.R.C.S., L.R.C.P., appointed Assistant House Surgeon to the Salop Infirmary, Shrewsbury.

* * *

FOULERTON, ALEXANDER G. R., F.R.C.S.(Eng.), appointed Bacteriologist to the Middlesex Hospital.

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MANNING, H. C., M.R.C.S., L.R.C.P., appointed Assistant Medical Officer to the Somerset and Bath Asylum.

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THOMPSON, H. E., M.B.(Lond.), M.R.C.S, L.R.C.P., appointed Resident Surgical Officer to the Birmingham and Midland Eye Hospital.

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WINKFIELD, C. F., M.R.C.S., L.R.C.P., appointed Assistant House Surgeon to the Derbyshire Royal Infirmary.

Births.

FEGAN.—On January 16th, at Old Charlton, Kent, the wife of F. Ardra Fegan, M.R.C.S., L.R.C.P., L.S.A., of a son.

VALÉRIE.—On February 19th, at 21, St. Ann's Villas, Holland Park Avenue, W., the wife of J. Valérie, of a daughter.

WILSON.—On January 28th, at Malvern, Kenley, the wife of Norman O. Wilson, F.R.C.S., of a daughter.

Marriages.

DRU DRURY—WILKINSON.—On December 27th, 1898, at St. Bartholomew-the-Great, London, by the Rev. Canon Robinson, of Ripon, Edward Grey Dru Drury, M.D., B.S.Lond., eldest son of Edward Dru Drury, of Blackheath, to Jean Aytoun Wilkinson, youngest daughter of the late M. A. Eason Wilkinson, M.D., F.R.C.P., of Greenheys, Manchester, and Middlethorpe Hall, York.

MAURICE—MARSH.—On February 1st, at St. George's, Hanover Square, by the Rev. Albert Baillie, Rector of Rugby, the Rev. R. Armitage, Chaplain to the Forces, and the Rev. D. Anderson, Rector of the Parish, Captain Frederick Barton Maurice, the Sherwood Foresters, Derbyshire Regiment, eldest son of Major-General Maurice, C.B., to Margaret Helen, only daughter of Mr. Howard Marsh, of 30, Bruton Street, W.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette, London Hospital Gazette, Nursing Record, The Student, The Hospital, British Dental Journal, Medical and Surgical Review of Reviews, The Stethoscope, The Broad Way, St. Thomas's Hospital Gazette, St. George's Hospital Gazette, "R. M. I."*